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(54) BROADCASTING TERMINAL EQUIPMENT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide broadcasting terminal equipment for automatically performing recording by judging a program suitable for a user from the utilization history of the user for reserved recording or the like.

SOLUTION: Concerning this broadcasting terminal equipment, history information 30 on the operation of the user is held, the history of utilization is extracted from this operation history information and the program information of an operation object, the taste of the user is grasped, a program relevant to taste information 40 of the user is retrieved out of program information scheduled to be broadcasted later, and that program is recorded by reserving automatic recording. Thus, the program desired to be watched by the user is automatically recorded and there is no trouble such as missing recording.

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CLAIMS

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[Claim(s)]

[Claim 1] The broadcast terminal unit characterized by to hold the program information about the program which is equipped with the input section which inputs directions of actuation, and the hysteresis attaching part holding actuation hysteresis in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast, and is set as the hysteresis of a user's terminal handling, and the object of actuation to a hysteresis attaching part.

[Claim 2] The broadcast terminal unit according to claim 1 characterized by having a taste extract means and a taste information attaching part, analyzing the information held to said hysteresis attaching part, extracting taste, and holding to a taste information attaching part as taste information.

[Claim 3] The broadcast terminal unit according to claim 2 characterized by changing

and extracting the significance of evaluation of program information according to said contents of actuation when extracting taste in said taste extract means.

[Claim 4] The broadcast terminal unit according to claim 3 characterized by the ability to set the significance of evaluation of the program information over said contents of actuation as arbitration.

[Claim 5] The broadcast terminal unit according to claim 2 characterized by discarding the taste information which does not have the renewal of a fixed period among the taste information held at said taste information attaching part.

[Claim 6] The broadcast terminal unit according to claim 2 characterized by the degree which shows taste among taste information when the fields which hold taste information in said taste information attaching part run short discarding low information.

[Claim 7] The broadcast terminal unit according to claim 2 characterized by updating time discarding from an old thing when the fields which hold taste information in said taste information attaching part run short and there is two or more information on the minimum [ degree / which shows taste among taste information ].

[Claim 8] The broadcast terminal unit according to claim 1 characterized by having a user specification means to specify a user, and two or more hysteresis attaching parts, and holding hysteresis according to a user.

[Claim 9] The broadcast terminal unit according to claim 2 or 8 characterized by having a user specification means to specify a user, two or more taste information attaching parts, and two or more hysteresis attaching parts, holding hysteresis according to a user, and extracting taste according to a user.

[Claim 10] The broadcast terminal unit according to claim 2 or 9 characterized by searching from the program information which holds the program including said taste information extracted from hysteresis information to the program information attaching part, and recording the corresponding program automatically.

[Claim 11] The broadcast terminal unit according to claim 10 characterized by recording automatically the program which searches and corresponds from the program information which holds preferentially the program including said taste information which shows a taste higher than the inside of said taste information to the program information attaching part.

[Claim 12] The broadcast terminal unit according to claim 10 characterized by recording automatically the program which searches and corresponds from the program information which holds the program including more said taste information to the program information attaching part.

[Claim 13] The broadcast terminal unit according to claim 1 characterized by recording the program which belongs automatically the program which analyzes the hysteresis currently held to said hysteresis attaching part, and belongs to the same series to the series when viewing and listening or an image transcription is being

carried out continuously more than the count of a convention.

[Claim 14] The broadcast terminal unit according to claim 13 characterized by significance data discarding low information among image speech information when the fields which hold image speech information in said image voice storage section run short.

[Claim 15] The broadcast terminal unit according to claim 13 characterized by updating time discarding from an old thing when the fields which hold image speech information in said image voice storage section run short and there is two or more information on the minimum [ data / significance ] among image speech information.

[Claim 16] The broadcast terminal unit according to claim 10 to 13 characterized by changing the retention period of the program recorded automatically according to the stage of the taste to the program.

[Claim 17] The broadcast terminal unit characterized by changing the record approach according to the attribute of the program set as the object of record in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in case a program is recorded.

[Claim 18] The broadcast terminal unit characterized by changing the record approach of the program set as the object of record based on taste information in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in case a program is recorded.

[Claim 19] When changing the record approach according to the attribute of the program set as the object of record, the attribute of a program is continuous and the broadcast terminal units according to claim 17 or 18 characterized by performing postscript record as the record approach when it is a thing with a series-element, such as a drama.

[Claim 20] It is the broadcast terminal unit according to claim 17 or 18 characterized by performing overwrite record as the record approach when it is what the newest contents, such as news and a weather report, required of the attribute of a program as when changing the record approach according to the attribute of the program set as the object of record.

[Claim 21] The broadcast terminal unit according to claim 20 characterized by deleting the old program which should be overwritten after all records are completed, when recording by the record approach which carries out overwrite record.

[Claim 22] The broadcast terminal unit characterized by changing a bit rate according to the attribute of the program set as the object of record at the time of record in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in case a program is recorded.

[Claim 23] The broadcast terminal unit characterized by changing the bit rate at the time of record of the program set as the object of record based on taste information in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in case a program is recorded.

[Claim 24] In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast The broadcast terminal unit characterized by what is classified and displayed based on one information included in said program information when also recording said program information applicable to the program recorded according to the time of recording a program and displaying the list of said recorded programs.

[Claim 25] In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast The broadcast terminal unit characterized by what is classified and displayed based on two or more information included in said program information when also recording said program information applicable to the program recorded according to the time of recording a program and displaying the list of said recorded programs.

[Claim 26] The broadcast terminal unit characterized by what it sorts per program according to the stage of taste, and is displayed when displaying the list of said recorded programs in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast.

[Claim 27] The broadcast terminal unit characterized by sorting and displaying a program per taste when displaying the list of said recorded programs in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast.

[Claim 28] The broadcast terminal unit characterized by what is displayed sequentially from that in which a preservation term is as Hasama when displaying the list of said recorded programs in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast.

[Claim 29] The broadcast terminal unit characterized by displaying only the program non-listened [ view and ] when displaying the list of said recorded programs in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast.

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

#### [0001]

[Field of the Invention] This invention receives the broadcast currently broadcast by coincidence in the information about the program and program which consist of a broadcast terminal unit especially an image, voice, and information, and relates to the are recording mold broadcast terminal unit which performs record of the contents of a program (contents), such as an image, voice, and information, playback, and deletion. The gestalt of which broadcasts, such as cables, such as CATV, the telephone line, and the Internet, BS and CS, and a ground wave, is sufficient as the distribution gestalt of contents.

#### [0002]

[Description of the Prior Art] In broadcast in recent years, digitization progressed and the broadcast which carries out multiplex transmission of a program and the information about a channel was attained at an image sound signal and coincidence. It reserves by a user's using EPG (Electlic Program Guide: electronic program guide) realized using such information, and choosing a program, and the service which realizes viewing and listening and an image transcription is offered. As a conventional example about the technique which records such contents of a program and is reproduced, there are some which were indicated by JP,5-103275,A, for example. An image transcription will be started, if the broadcast terminal unit has a program record playback means and image transcription (record) reservation data memory, sets the channel and time amount of a program which a user should record on videotape to image transcription reservation data memory and becomes that reservation time amount with this technique.

#### [0003]

[Problem(s) to be Solved by the Invention] Conventionally, the channel of a program and the set of time amount which should be recorded on videotape were not able to be recorded on videotape, if image transcription reservation was performed and a user had not recognized existence of the target program, when the user itself operates it. That is, the technical problem that it had to continue gazing at what kind of program is always broadcast occurred. As for this, the same is [ even if ] said of a thing with the user interface which was [ EPG / aforementioned ] excellent.

[0004] Moreover, if timed recording was made in all the programs that a program

bundles, come out and belong to series using the information on a certain series as it was in JP,10-336533,A, it recorded on videotape to the contents which do not have the need in practice, and there was a trouble of causing a useless image transcription and useless use of the resource of a storage. The purport to which a user also records this on videotape needed to be declared.

[0005] Moreover, the conventional technique for recording on videotape automatically is indicated by JP,5-62283,A. This is supervising the channel and time amount of the program to which it is viewing and listening on television, and judges a favorite program. In this case, time amount and a channel were only the same, and it was not necessarily the program and the desired program which were not necessarily related, and when the televising time amount of a program was changed, there was a trouble that it could not respond.

[0006] This invention was made in view of the technical problem of the above-mentioned conventional technique, and the 1st purpose is offering the broadcast terminal unit which records automatically by judging the program which was suitable for the user from a user's use hysteresis in the timed recording which needed the active actuation from a user at the conventional terminal.

[0007] In case the 2nd purpose of this invention records, it is offering the broadcast terminal unit which can choose automatically the record approach for which it was suitable according to the attribute of the program to record, and can use a record resource effectively.

[0008]

[Means for Solving the Problem] In order to solve such a technical problem, this invention holds the hysteresis of actuation of a user in a broadcast terminal unit. Moreover, the information on the program which receives program information including the additional information which expresses the contents of the program in broadcast, and is set as the object of actuation is also doubled and held. A user's hysteresis can be extracted from such actuation hysteresis and the program information for actuation, and a user's taste can be grasped. A broadcast terminal unit holds by receiving the program information on the schedule broadcast from now on.

[0009] it is possible to search the program which boils a user's taste information and corresponds from this program information currently held, and to record that program automatically.

[0010] Moreover, when recording on videotape, it is possible to determine a recording method, image quality, etc. according to the class of program, and to carry out useless record which is not with reference to the information on the program used as the object. As invention which has such various modes, invention of this invention according to claim 1 In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast as a broadcast terminal unit It has the input section

which inputs directions of actuation, and a hysteresis attaching part holding actuation hysteresis. The program information about the program set as the hysteresis of a user's terminal handling and the object of actuation is held to a hysteresis attaching part, and it has for a user an operation that un-arranging [ that a program to watch is recorded on videotape automatically and misses an image transcription ] is lost.

[0011] As invention which has such various modes, invention of this invention according to claim 1 In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast It has the input section which inputs directions of actuation, and a hysteresis attaching part holding actuation hysteresis, and is characterized by holding the program information about the program set as the hysteresis of a user's terminal handling, and the object of actuation to a hysteresis attaching part.

[0012] Invention of this invention according to claim 2 is characterized by having a taste extract means and a taste information attaching part, analyzing the information held to said hysteresis attaching part, extracting taste, and holding to a taste information attaching part as taste information in a broadcast terminal unit according to claim 1.

[0013] In a broadcast terminal unit according to claim 2, invention of this invention according to claim 3 is characterized by changing and extracting the significance of evaluation of program information according to said contents of actuation, when extracting taste in said taste extract means.

[0014] Invention of this invention according to claim 4 is that of the peach characterized by the ability to set the significance of evaluation of the program information over said contents of actuation as arbitration in a broadcast terminal unit according to claim 3.

[0015] Invention of this invention according to claim 5 is characterized by discarding the taste information which does not have the renewal of a fixed period among the taste information held at said taste information attaching part in a broadcast terminal unit according to claim 2.

[0016] In a broadcast terminal unit according to claim 2, invention of this invention according to claim 6 is characterized by the degree which shows taste among taste information discarding low information, when the fields which hold taste information in said taste information attaching part run short.

[0017] In a broadcast terminal unit according to claim 2, invention of this invention according to claim 7 is characterized by updating time discarding from an old thing, when the fields which hold taste information in said taste information attaching part run short and there is two or more information on the minimum [ degree / which shows taste among taste information ].

[0018] Invention of this invention according to claim 8 is characterized by having a

user specification means to specify a user, and two or more hysteresis attaching parts, and holding hysteresis according to a user in a broadcast terminal unit according to claim 1.

[0019] Invention of this invention according to claim 9 is characterized by having a user specification means to specify a user, two or more taste information attaching parts, and two or more hysteresis attaching parts, holding hysteresis according to a user, and extracting taste according to a user in a broadcast terminal unit according to claim 2 or 8.

[0020] Invention of this invention according to claim 10 is characterized by searching from the program information which holds the program including said taste information extracted from hysteresis information to the program information attaching part, and recording the corresponding program automatically in a broadcast terminal unit according to claim 2 or 9.

[0021] Invention of this invention according to claim 11 is characterized by recording automatically the program which searches and corresponds from the program information which holds preferentially the program including said taste information which shows a taste higher than the inside of said taste information to the program information attaching part in a broadcast terminal unit according to claim 10.

[0022] Invention of this invention according to claim 12 is characterized by recording automatically the program which searches and corresponds from the program information which holds the program including more said taste information to the program information attaching part in a broadcast terminal unit according to claim 10.

[0023] In a broadcast terminal unit according to claim 1, invention of this invention according to claim 13 analyzes the hysteresis currently held to said hysteresis attaching part, and is characterized by recording the program which belongs the program belonging to the same series to the series automatically when viewing and listening or an image transcription is being carried out continuously more than the count of a convention.

[0024] In a broadcast terminal unit according to claim 13, invention of this invention according to claim 14 is characterized by significance data discarding low information among image speech information, when the fields which hold image speech information in said image voice storage section run short.

[0025] In a broadcast terminal unit according to claim 13, invention of this invention according to claim 15 is characterized by updating time discarding from an old thing, when the fields which hold image speech information in said image voice storage section run short and there is two or more information on the minimum [ data / significance ] among image speech information.

[0026] Invention of this invention according to claim 16 is characterized by changing the retention period of the program recorded automatically according to the stage of the taste to the program in a broadcast terminal unit according to claim 10 to 13.

[0027] In a broadcast terminal unit, in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast, in case invention of this invention according to claim 17 records a program, it is characterized by changing the record approach according to the attribute of the program set as the object of record.

[0028] In a broadcast terminal unit, in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast, in case invention of this invention according to claim 18 records a program, it is characterized by changing the record approach of the program set as the object of record based on taste information.

[0029] In a broadcast terminal unit according to claim 17 or 18, invention of this invention according to claim 19 is that the drama of the attribute of a program etc. is continuous, and a thing characterized by performing postscript record as the record approach, when changing the record approach according to the attribute of the program set as the object of record, and it is a thing with a series-element.

[0030] In a broadcast terminal unit according to claim 17 or 18, invention of this invention according to claim 20 is characterized by performing overwrite record as the record approach, when it is what the newest contents, such as news and a weather report, are required of the attribute of a program as when changing the record approach according to the attribute of the program set as the object of record.

[0031] In a broadcast terminal unit according to claim 20, when recording by the record approach which carries out overwrite record, invention of this invention according to claim 21 is characterized by deleting the old program which should be overwritten, after all records are completed.

[0032] In a broadcast terminal unit, in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast, in case invention of this invention according to claim 22 records a program, it is characterized by changing a bit rate according to the attribute of the program set as the object of record at the time of record.

[0033] In a broadcast terminal unit, in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast, in case invention of this invention according to claim 23 records a program, it is characterized by changing the bit rate at the time of record of the program set as the object of record based on taste information.

[0034] In the terminal which receives the broadcast which transmits the program information about said program by which it is broadcast that invention of this invention according to claim 24 is the program which consists of an image, voice, information, etc. in a broadcast terminal unit When also recording said program

information applicable to the program recorded according to the time of recording a program and displaying the list of said recorded programs, it is characterized by what is classified and displayed based on one information included in said program information.

[0035] In the terminal which receives the broadcast which transmits the program information about said program by which it is broadcast that invention of this invention according to claim 25 is the program which consists of an image, voice, information, etc. in a broadcast terminal unit When also recording said program information applicable to the program recorded according to the time of recording a program and displaying the list of said recorded programs, it is characterized by what is classified and displayed based on two or more information included in said program information.

[0036] In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in a broadcast terminal unit, invention of this invention according to claim 26 is characterized by what it sorts per program according to the stage of taste, and is displayed, when displaying the list of said recorded programs.

[0037] In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in a broadcast terminal unit, invention of this invention according to claim 27 is characterized by sorting and displaying a program per taste, when displaying the list of said recorded programs.

[0038] In the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast in a broadcast terminal unit, invention of this invention according to claim 28 is characterized by what is displayed sequentially from that in which a preservation term is as Hasama, when displaying the list of said recorded programs.

[0039] In a broadcast terminal unit, in the terminal which receives the broadcast which transmits the program information about the program which consists of an image, voice, information, etc., and said program broadcast, invention of this invention according to claim 29 is characterized by displaying only the program non-listened [ view and ], when displaying the list of said recorded programs.

[0040]

[Embodiment of the Invention] Drawing 1 is the block diagram showing the configuration of the broadcast terminal unit concerning the gestalt of 1 operation of this invention. The antenna with which 1 receives a broadcasting electric-wave in drawing 1 , the tuner which 2 detects a broadcast channel from the received broadcasting electric-wave, and takes out a signal, The demodulator which restores to the broadcasting electric-wave by which 3 was detected, TS decoder which 4

elongates TS (transport stream) signal of MPEG-2 among the signals to which it is restored, and is decrypted, AV decoder which 5 elongates an image and a sound signal (namely, AV signal of MPEG-2) among the signals to which it is restored, and is decrypted, The voice playback section which takes out AV signal with which 6 was decrypted by the AV decoder 5 to voice, the image reconstruction section which takes out an image (an animation, still picture) from AV signal with which 7 was decrypted by the AV decoder 5, and 8 are monitors which display the reproduced image. Moreover, it is the data accumulation section in which the various information on a program that record playback of 9 is carried out is stored, the input section into which, as for 10, various commands are inputted by actuation of a user, and the system control section in which 11 controls actuation by this whole broadcast terminal unit, and CPU is used. Further 12 is a system bus which is connected between each above function part and transmits data and a control signal.

[0041] The image speech information attaching part 21 by which the data of the image which is the contents of a program, and voice are stored in the data accumulation section 9 as a data storage means, The image transcription program information attaching part 22 in which the information about an image transcription program is stored, and the program information attaching part 23 in which the information on the program broadcast [ EPG ] is stored, The hysteresis attaching part 24 in which the data about a user's actuation hysteresis, i.e., use situation, in the past are stored, The setting information attaching part 25 in which the data about the various contents of a setting over a broadcast terminal unit are stored, The actuation significance attaching part 26 in which the weighting data showing the significance of the stored data are stored, and the taste information attaching part 27 in which the information about this user's taste is stored from a user's use situation are formed.

[0042] About the broadcast terminal unit which has this configuration, actuation is explained below. Drawing 2 is a flow Fig. explaining actuation of the broadcast terminal unit concerning the gestalt of this operation. In drawing 2 , if actuation of a broadcast terminal unit is started, it confirms whether CPU11 had the input of the command by the user (user) in the processing step (only henceforth a step) ST 1, and if there is no input, input existence will be checked repeatedly. On the other hand, when command input occurs, processing corresponding to the contents of the command inputted in a step ST 2 is carried out. The processing corresponding to the input of a command points out processing of selection of a program, deletion of the program which viewed and listened, recorded on videotape, image-transcription-reserved, and was recorded on videotape, etc. next, the program from which CPU11 is set as the object of the above-mentioned processing -- the program under current broadcast -- or a program [ finishing / an image transcription ] is judged (step ST 3). And when the program set as the object of processing is a program under current broadcast, while acquiring the program information which corresponds from the program information attaching part

23 and carrying out processing corresponding to the contents of the command (step ST 4), the classification and program information on actuation are registered into the hysteresis attaching part 24 (step ST 5). Acquisition maintenance of the thing of the program which carries out acquisition maintenance of the program information beforehand at the program information attaching part 23, or is broadcast by coincidence is carried out about processing of the above-mentioned step ST 4. When the program set as the object of processing in a step ST 3 is judged to be a program [ finishing / an image transcription ], while acquiring the program information which corresponds from the image transcription program information attaching part 22 and carrying out processing corresponding to the contents of the command (step ST 6), the classification and program information on actuation are registered into the hysteresis attaching part 24 (step ST 5). About processing of the above-mentioned step ST 6, when recording on videotape to the image transcription program information attaching part 22, program information is associated and held. Thereby, whenever command input for operating a broadcast terminal unit by the user and actuation are performed, hysteresis information is accumulated in the hysteresis attaching part 24.

[0043] Drawing 3 is drawing showing the storing condition of the hysteresis information accumulated in the hysteresis attaching part. As shown in this drawing, the actuation hysteresis of a broadcast terminal unit is divided and stored in various classification, such as time 33, the actuation classification 34, and the program information 35, as hysteresis information 30. And as time 33, at a year, the moon, a day, and the time, dates or time information, such as a part and a second, are stored as data, and various actuation, such as viewing and listening, an image transcription, deletion, preservation, and neglect, is stored as data as an actuation classification 34. Here, "viewing and listening" in the gestalt of this operation means the case (it reproduces) where it views and listens to a program [ finishing / an image transcription ] beyond fixed time amount, when a user views and listens to the program under broadcast beyond fixed time amount with his intention. An "image transcription" means the case where a user records on videotape with his intention, and includes both the case where the program under broadcast is recorded on videotape on real time, and timed recording in this image transcription. The case where "deletion" is deleted without once's viewing and listening to the program once recorded on videotape (elimination) is said. After viewing and listening to a program [ finishing / an image transcription of "preservation" ], the case where actuation which carries out preservation directions again is carried out is said. The case where "neglect" keeps a program [ finishing / an image transcription ] not seen during a fixed period is said.

[0044] Moreover, the program information set as the object of actuation as program information 35 is stored. Furthermore, the pointer 36 to the record of the front about

the above-mentioned hysteresis information and the pointer 37 to the following record are stored, respectively, and the address of the data of the record is stored in the pointer 36 to a front record, and the address of the data of the record is stored in the pointer 37 to the following record. And if such hysteresis information 30 is accumulated in the hysteresis attaching part 24, CPU11 will create taste information from this hysteresis information 30. In addition, creation of the taste information from this hysteresis information 30 may create taste information, when that accumulated dose is detected when some hysteresis information was accumulated in the hysteresis attaching part 24, when hysteresis information is accumulated in the hysteresis attaching part 24 one and taste information is created in detail, and only a predetermined (for example, the threshold is set up) amount is accumulated.

[0045] Drawing 4 is a flow Fig. explaining creation processing of the taste information by CPU11. Shortly after creation processing of this taste information is started, it confirms whether CPU11 has the hysteresis information 30 that it does not register, as taste information (step ST 11), and when there is no information that it does not register, creation processing of taste information is ended. On the other hand, when there is information that it does not register, CPU11 retrieves taste information (step ST 12). It searches with this retrieval processing whether the same data, i.e., data classification, and data have the same thing in the taste information attaching part 27. And it confirms whether there are any same data (step ST 13), and when the same thing is in the taste information attaching part 27, current time of day is set up as modification time (step ST 14). On the other hand, when it is judged that there is no same thing in the taste information attaching part 27 in check actuation of a step ST 13, new data record is added to this taste information attaching part 27 (step ST 15), and, subsequently current time of day is set up as modification time (step ST 14). After a setup of this modification time finishes, CPU11 calculates the value of weight by the operation from the contents of actuation of the hysteresis information set as the object of this processing, adds the value of the weight corresponding to applicable processing to the field of weighting (or subtraction) (step ST 16), and ends creation processing of a series of taste information.

[0046] Drawing 5 is drawing showing the operation table used as the foundation which calculates the above-mentioned weight value for performing weighting which determines the degree which shows taste. As shown in this drawing, the data of actuation classification are divided very much into the kind 21 and the minor key 22 by the weight information 20 so that a weight value may be determined by the actuation which the user performed. And as a kind 21, it is divided into viewing and listening 23, an image transcription 24, deletion 25, preservation 26, and neglect 27, and is further divided very much into the dyadic eye as a minor key 22 about viewing and listening 23. And about viewing and listening 23, when viewing and listening to a program [ finishing / "one plus" and an image transcription / when viewing and listening beyond fixed

time amount with one's intention ] beyond fixed time amount, it is decided like "one plus." Next, about the image transcription 24, also when it is a current image transcription, and also when recording on videotape with one's intention, and it is timed recording, it is decided like "two pluses." About deletion 25, when deleting without watching a program [ finishing / an image transcription ], it is decided like "two minus." About preservation 26, when directing to save after viewing and listening to a program [ finishing / an image transcription ], it is decided like "three pluses." About neglect 27, when you do not watch a program [ finishing / an image transcription ] during a fixed period, it is decided like "one minus."

[0047] Here, although it seems that "taste" generally usually means "a favorite (he likes) condition", the semantics of the expression "the degree which shows taste" degree [ which is used in this invention ] Becoming is as follows. That is, this does not have \*\*\*\* and only expresses [ whether it is "liking" and ] "whether do you like or are disagreeable" and "it not being disagreeable, either, even when he likes", either with (whether to be interested) or not. and the case where "the degree which shows taste" says, "it is high" -- "-- liking (favorite) -- it is disagreeable (it abhors) -- " -- expressing -- another side "the degree which shows taste" When "It is low" is said, it expresses "it is not disagreeable, either, even when he likes."

[0048] For example, when [ the plus (+) direction / "he likes" and the minus (-) direction ] "the degree which shows taste" was expressed numerically and "it is disagreeable", in drawing 6, the case where "the degree which shows taste" "is low" expresses a field "C", and, as for the case where "the degree which shows taste" "is high", expresses a field "A, E." In addition, it responds in that case and is various which it considers is a field "B, D." Of course, naturally it is also possible to set up a field more finely and to carry out more detailed control.

[0049] Therefore, when "the degree which shows taste among taste information cancels low information (deletion)", the taste information applicable to the above-mentioned field "C" (or field "B, C, D") will be canceled. This is because it is information anyhow good for the user of not being disagreeable, either even when he likes. Therefore, since a user is "the meaningful information" "being disagreeable (he not liking)", the taste information applicable to a field "E" (or field "D, E") is not canceled.

[0050] In addition, since stereo data (for example, the program itself) are the futility of capacity even if the user is doing the attaching part of "the not favorite thing", objects, such as renewal of stereo data and deletion, serve as stereo data "corresponding to" a field "E (or D, E, C-E, or B-E)." That is, "the significance data (concrete value of field A-E) of the candidate for cancellation of stereo data" is low.

[0051] Drawing 7 is drawing showing an example of the data format a user's taste information created by creation processing actuation of the above-mentioned taste information. As shown in this drawing, the data about taste are divided and stored in

various classification, such as the updating time 43, the taste data classification 44, the concrete taste data 45, and the significance 46 of that taste, as taste information 40. And dates or time information, such as a part and a second, are stored as data at the year which updated taste information as updating time 33, the moon, a day, and the time. As a taste data classification 44, the classification of the information about programs, such as the genre of a program, a performer, Series ID, a supervisor, time information of a program, and channel information, is stored as data. Moreover, each data corresponding to data which correspond to the above-mentioned taste data classification 44 as taste data 45, such as a genre and a performer, are stored. As taste data contained in the "genre" of the above-mentioned taste data classification 44, there are taste data, such as "oil painting", "baseball", and a "drama", and, specifically, the identifier of each performers' (talent, a player, actress, etc.) individual is stored as taste data as taste data of the classification "a performer" of the taste data classification 44. Furthermore, the weight value added in the step ST 16 of creation processing actuation of the above-mentioned taste information (or subtraction) is stored in the significance data 46. Moreover, the address of the data of the target record is stored in the pointer 47 to a front record, and the address of the data of the target record is stored in the pointer 48 to the following record. Furthermore, the address of the data corresponding to each pointer is given as the pointer 47 to the record of the front about the above-mentioned taste information, and a pointer 48 to the following record.

[0052] Drawing 8 is drawing which explains more concretely the data classification 44 in the data of the taste information 40. As shown in this drawing, the data classification 44 includes 44g of program frame information that the data of a channel identifier and broadcast time (start time, end time, or broadcasting hours) are expressed as genre 44a, performer 44b, supervisor 44c, 44d of original authors and ID44e of various series, such as a serial drama, and two or more collection ID44f. And ID44h is matched with the various classification data 44a-44g generally contained in these data classification 44, respectively. Acquisition of such information shall be beforehand specified as a format, shall be recognized by both delivery and receptacle side, and acquisition of each data is possible for it, and it is made.

[0053] Drawing 9 is drawing showing the example which expressed with list form the taste information 40 shown in drawing 7. this drawing -- the taste information 40 -- 40 (n), and 40 (n+1) and 40 (n+2) ... as -- it expresses to the form of a list. And the "baseball" 45(n) significance data 46 (n) which are the genre (ID1) (n) 44 and taste data which are in charge of the updating date 43 (n) and data classification are stored in the taste information 40 (n). DS with the same said of the taste information 40 (n+1) is taken. In addition, it is alike about this taste information 40 (n+1), therefore a performer (ID2) 44 (n+1) is stored as data corresponding to data classification, and "Taro Yamada" is stored in taste data.

[0054] Drawing 10 is drawing showing an example of the contents of data of the system attaching part data in this broadcast terminal unit. As shown in this drawing, the system attaching part data 50 consist of image transcription reservation processing-time data 53, and the number data 54 of the maximum image transcription reservation and the number data 55 of the maximum hysteresis data record the image transcription reservation processing schedule data 51, the newest image transcription reservation processing-time data 52, and next time.

[0055] Drawing 11 is a flow Fig. explaining addition of the taste information record by CPU11, and deletion. It is confirmed whether when addition of this taste information record and deletion are started, CPU11 has room (storage region) to add a record to the data accumulation section 9 (step ST 21). When there is no room to add a record, the already registered record is searched, and the degree of taste is low, and judges it as the data (viewing and listening etc. is not carried out) which are not having the record with the oldest updating time used, and deletes (step ST 22). Next, a new record is generated and added (step ST 23), and addition of a record and deletion are ended after that. On the other hand, when there is room to add a record, a new record is generated and added immediately (step ST 23), and addition of a record and deletion are ended after that.

[0056] Drawing 12 is a flow Fig. explaining the automatic image transcription reservation processing by CPU11. If this automatic image transcription reservation processing is started, CPU11 will acquire current time (step ST 31), and it will be confirmed whether, next, it passed over the time of day of automatic image transcription reservation processing (step ST 32). About this automatic image transcription reservation processing, the time of day which performs the automatic image transcription reservation processing concerned is beforehand set up and saved by the system. In this case, let spacing of processing be arbitration. A schedule is also beforehand set up by the system and is saved at the setting information attaching part 25. And in the above-mentioned check processing, when having not passed over the time of day of automatic image transcription reservation processing, it returns to a step ST 31 and current time is acquired. On the other hand, when it is judged that it has passed over the time of day of automatic image transcription reservation processing in the check processing in a step ST 32 next, the last processing confirms \*\*\*\*\* before the newest processing schedule time of day (step ST 33). In this case, the time of day which performed automatic image transcription reservation processing is also saved at the setting information attaching part 25. And in check processing of the above-mentioned step ST 33, when it is judged that it is not before the newest processing schedule time of day, the last processing returns to a step ST 31, and acquires current time. On the other hand, when it is judged that the last processing is before the newest processing schedule time of day in the check processing in a step ST 33, the information on the taste information attaching part 27 is sorted to

descending of the significance of each record (step ST 34). Subsequently, the conditions that the value of significance is the highest are set to retrieval conditions (step ST 35), and the program information on the program broadcast from now on saved is retrieved further (step ST 36). Next, when it checks [ whether it is a program applicable to retrieval, and sequential image transcription reservation is carried out to the maximum of image transcription reservation of the program of reservation non-recorded on videotape (step ST 37), and, subsequently, image transcription reservation is carried out to the maximum of image transcription reservation, and ] (step ST 38) and image transcription reservation is carried out to the maximum of image transcription reservation, it returns to a step ST 31 and current time is acquired. On the other hand, when image transcription reservation is not carried out to the maximum of image transcription reservation, next, significance sets high conditions to retrieval conditions (step ST 39), and returns to 36 or less step [ ST ] processing after that. Thus, automatic image transcription reservation processing is continued.

[0057] Thereby, the significance of a program is judged from the inclination of a user's taste, and when a program with a high significance is broadcast, the broadcast terminal unit of this invention performs image transcription reservation of a program automatically. That is, actuation of a user is mark-ized, and he watched the program with what kind of information, or (significance of the information) it judges with the value of the mark, and the automatic image transcription of a program with the information on a high score is performed. Whether what is continued and an automatic image transcription is carried out can consider two or more patterns then. For example, they are the same series, the same genre, the same performer, the same writer, a supervisor, etc. About these patterns, it can be injured by the category in all the information about a program with the data classification 44 of taste information.

[0058] Although recorded on videotape, an automatic image transcription can also be stopped to what does not give a demerit mark and look at mark to the category of the program which he does not watch. Moreover, when allowances are in a storage to a program [ finishing / an image transcription ], a certain fixed period maintenance is carried out, and when seeing, it is made to erase from what has a low significance, and the old thing of updating time, when hard-pressed. However, it is not the limitation when it is expected that a user holds intentionally. Thus, the category of a program with the intention to hold gives a high score, when carrying out mark-ization which was described above. The weight information 20 shown in drawing 5 in this semantics can be variously changed about the value of the item which should be carried out weighting, and weight.

[0059] Moreover, it becomes possible by carrying out collection analysis of such taste information according to an individual to carry out the automatic image transcription of the program suitable for an individual. For example, at ordinary homes, collection

analysis of the taste information can be carried out according to an individual like itself. [ father, mother, an elder brother and ]

[0060] Moreover, about a series thing, the program which he is watching continuously is recorded on videotape automatically. This takes into consideration that possibility of seeing before carrying out mark-ization about taste information according to the above-mentioned weight information 20 is high. In this case, in case a program is recorded, it not only records on videotape automatically, but according to the attribute of the program set as the object of record, it can change that record approach. For example, as an attribute of a program, when the program is a drama, postscript record is performed as the record approach. Moreover, on the other hand, when the attribute of the program is news or a weather report, overwrite record is performed as the record approach. While the request of the user that it wants to also consider correspondence of that and to watch it continuously since it finishes photographing all series and he may watch the program broadcast for every week like a drama (or series thing) by carrying out like this can be met, what does not need to look at data only the newest data is important and old like news or a weather report is deleted when new data are recorded. The storage region of the image transcription program information attaching part section 22 which is the data storage section by this can be used effectively. In this case, when carrying out program record by the record approach which carries out overwrite record, after all records are completed, the fault that the record attaching part of the data of a new old gap is not done by the defect of record actuation can be avoided by deleting the old program which should be overwritten.

[0061] Moreover, in case a program is recorded, the record approach of the program set as the object of record based on taste information can also be changed. That is, control of recording by overwrite in to the extent that I recording on a trial although that interested adds a postscript and it is so much uninterested is possible.

[0062] Moreover, as another mode, in case a program is recorded, according to the attribute of the program set as the object of record, the bit rate at the time of the record can also be changed. That is, when programs are a drama and an educational program, while the program recorded on videotape sets up a bit rate highly since the thing of high quality is required in many cases and it records on videotape, since especially the visibility of an image is not thought as important, the storage region of the image transcription program information attaching part section 22 can be effectively used for programs, such as news, by adopting the bit rate according to the attribute of each program.

[0063] Moreover, the bit rate at the time of record of the program set as the object of record based on taste information is also changeable. That is, it is also possible for that interested to set up a bit rate highly and to record by high definition, and for that uninterested to set up a bit rate low, to record by coarse image quality, and to use a

storage region effectively.

[0064] Moreover, when classify based on one information included in program information, making it display, when displaying the list of the programs which also recorded the program information on the program and were recorded when recording the broadcast program, or displaying the list of the recorded programs, it can also classify and display based on two or more information included in program information. Various variations can be considered about the list display of this program. That is, in the program which consists of an image, voice, information, etc., and the terminal which receives the broadcast which transmits the program information about the above-mentioned program broadcast, when displaying the list of the recorded above-mentioned programs, it can sort per program according to the stage of taste, and can display, or a program can also be sorted and displayed per taste. Moreover, when displaying the list of programs which carried out [ above-mentioned ] record, you may make it display sequentially from that in which a preservation term is as Hasama, and only the program non-listened [ view and ] can also be displayed.

[0065]

[Effect of the Invention] As explained above, according to this invention, the hysteresis of actuation of a user is held in a broadcast terminal unit. Such actuation hysteresis, In order to extract a user's hysteresis from the program information for actuation, to search the program which corresponds to a user's taste information among the program information on the schedule which grasps a user's taste and will be broadcast from now on and to record by carrying out automatic image transcription reservation of the program, For a user, un-arranging [ that a program to watch is recorded on videotape automatically and misses an image transcription ] is lost.

[0066] Moreover, when recording on videotape, it is possible to determine a recording method, image quality, etc. according to the class (attribute) of program, and to carry out useless record which is not with reference to the information on the program used as the object.

[0067] In order to delete image transcription data according to criteria, such as what has a low significance, according to the capacity of a record medium furthermore, various effectiveness -- a deployment of a storage is realizable -- is acquired.

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#### DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the configuration of the broadcast terminal unit concerning the gestalt of 1 operation of this invention

[Drawing 2] The flow Fig. explaining actuation of the broadcast terminal unit concerning the gestalt of said operation

[Drawing 3] Drawing showing the storing condition of the hysteresis information accumulated in the hysteresis attaching part of the broadcast terminal unit concerning the gestalt of said operation

[Drawing 4] The flow Fig. explaining creation processing of the taste information on the broadcast terminal unit concerning the gestalt of said operation

[Drawing 5] Drawing showing the operation table used as the foundation which calculates the above-mentioned weight value for performing weighting in the broadcast terminal unit concerning the gestalt of said operation

[Drawing 6] Drawing which expressed numerically the degree which shows the taste at the time of performing weighting in the broadcast terminal unit concerning the gestalt of said operation

[Drawing 7] Drawing showing an example of the data format of the taste information maintenance of a user created by creation processing actuation of the taste information on the broadcast terminal unit concerning the gestalt of said operation

[Drawing 8] Drawing showing an example of the data format which constitutes the data classification in the data of the taste information on the broadcast terminal unit concerning the gestalt of said operation

[Drawing 9] Drawing showing the example which expressed the data of the taste information on the broadcast terminal unit concerning the gestalt of said operation with list form

[Drawing 10] Drawing showing an example of the contents of data of the system attaching part data in the broadcast terminal unit concerning the gestalt of said operation

[Drawing 11] Addition of the taste information record in the broadcast terminal unit concerning the gestalt of said operation, the flow Fig. explaining deletion

[Drawing 12] The flow Fig. explaining the automatic image transcription reservation processing in the broadcast terminal unit concerning the gestalt of said operation

[Description of Notations]

1 Antenna

2 Tuner

3 Demodulator

4 TS Decryption Section

5 AV Decryption Section

6 Voice Playback Section

7 Image Reconstruction Section

8 Monitor  
9 Data Accumulation Section  
10 Input Section  
11 System Control Section  
12 System Bus  
20 Weight Information  
30 Hysteresis Information  
40 Taste Information  
50 System Maintenance Data